

Claims

1. Method for orienting flat items of mail (1, 2) towards a narrow edge using a U-shaped conveying channel (3) with a driven underframe belt, in which the flat items of mail (1, 2) are conveyed one after the other via a determined path, in an upright position towards a narrow edge without being jammed, characterized by the following steps;

- measuring the thickness of the respective item of mail (1, 2) to be oriented, before this reaches the conveying channel (3),
- changing the distance of the lateral limit stops (4) or limiting sections of the conveying channel (3) corresponding to the respectively measured item of mail thickness, such that (1, 2) at the end of the conveying channel (3) the respective item of mail is oriented towards the lower narrow edge by virtue of its own gravity and the distance of the lateral limit stops (4) of the conveying channel (3) from every item of mail (1, 2) during transport through the conveying channel (3) is only wide enough for the item not to collapse at all nor to collapse partially even if its intrinsic stiffness is poor.

2. Method according to claim 1; characterized in that, at least one of the lateral limit stops (4) is designed to be flexible, and that from the known transport speed and a detected front and/or back edge, the length of the item of mail and the position of each item of mail (1, 2) during its transport through the conveying channel (3) is determined as a function of the time and this data allows the lateral limit stops (4) across the length of the conveying channel (3) to be changed in terms

of their distance from one another for each item of mail, such that lateral limiting sections of the flexible lateral limit stops (4) adjusted to the respective thickness and length of the item of mail,  
5 like standing waves, move in conjunction with items of mail (1, 2).

3. Device for orienting flat items of mail (1, 2) towards a narrow edge with a U-shaped conveying channel (3) with a  
10 propelled underframe belt, in which the flat items of mail (1, 2) are conveyed one after the other over a determined path, in an upright position on a narrow edge without jamming, characterized by

- a measuring device (13) for determining the thickness of the respective item of mail (1, 2) to be oriented, before this has reached the conveying channel (3),  
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- an adjusting mechanism engaging with at least one lateral limit stop (4) for changing the distance between the lateral limit stop (4) or between lateral limitation sections of the conveying channel (3) corresponding to the respectively measured thickness of the item of mail, such that at the end of the conveying channel (3) the item of mail (1, 2) is oriented towards the lower narrow edge by virtue of  
20 its own gravity and the distance of the lateral limit stops (4) of the conveying channel (3) from each item of mail (1, 2) during transport through the conveying channel (3) is only wide enough for the item not to collapse at all nor to collapse partially even if its  
25 intrinsic stiffness is poor.

4. Device according to claim 3, characterized in that, lateral transport belts (4) circulating at the same speed as

the underframe belt are provided as lateral limit stops (4) of the conveying channel (3) guided via rollers (5, 6).

5. Device according to claim 3, characterized in that, driven rollers (5, 6) are provided as lateral limit stops (4) of the conveying channel, between which fixed guide plates are attached to the supports of the rollers (5, 6), the peripheral speed of these rollers (5, 6) corresponding to the transport speed of the underframe belt.

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6. Device according to claim 4, characterized in that, the adjusting mechanism (7, 8, 9, 10) at each roller support engages with at least one transport belt (4) and is controlled such that the lateral transport belts (4) are changed as a function of the length of the item of mail and the position of each item of mail (1, 2) during its transport through the conveying channel (3), which is determined with the aid of the known transport speed and a detected leading edge and/or trailing edge, via the length of the conveying channel (3) in their distance to one another for each item of mail, such that the transport belt sections adjusted to the respective thickness and length of the item of mail move in conjunction with the items of mail (1, 2) as standing waves.

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7. Device according to claim 4 or 5, characterized in that, with distances of this type between the items of mail (1, 2) with which only one item of mail (1 or 2) is located in the conveying channel (3), the adjusting mechanism (7, 8, 9, 10) is designed such that all adjustable rollers (6) are only collectively adjustable by the same amount.